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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,154	07/28/2003	Benjamin R. Harding	EH-10855 (03-171)	4375

34704 7590 12/15/2004

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EXAMINER

KERSHTEYN, IGOR

ART UNIT PAPER NUMBER

3745

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,154

Applicant(s)

HARDING ET AL.

Examiner

Igor Kershteyn

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3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION***Drawings***

The drawings are objected to because they are not formal drawings.

Formal drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended.

The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Japan Patent No. 62251403.

In figures 1-8, Japan Patent teaches a disk 5, comprising: a disk bore 4 disposed about a centerline, said disk bore 4 having a bore width; and said disk bore comprising a contoured shape (part 7) having a contour depth, wherein said contoured shape is a smooth curve, wherein said smooth curve is a conic section, wherein said smooth curve is semi-circular, wherein said contoured shape comprises a blend radius.

Claims 1-5, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Maghenzani (4,648,796)

In figures 1 and 3, Maghenzani teaches a disk 6, comprising: a disk bore 4 disposed about a centerline, said disk bore (not numbered) having a bore width; and said disk bore comprising a contoured shape having a contour depth, wherein said contoured shape is a smooth curve, wherein said smooth curve is a conic section, wherein said smooth curve is semi-circular, wherein said contoured shape comprises a blend radius.

Claims 1-5, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Modafferi et al. (4,836,750)

In figure 1, Modafferi et al. teach a disk 18, comprising: a disk bore (not numbered) disposed about a centerline 30, said disk bore having a bore width; and said disk bore comprising a contoured shape having a contour depth, wherein said contoured shape is a smooth curve, wherein said smooth curve is a conic section, wherein said smooth curve is semi-circular, wherein said contoured shape comprises a blend radius.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Reynolds (5,049,017)

In figure 3, Reynolds teaches a disk 14, comprising: a disk bore 38 disposed about a centerline, said disk bore 38 having a bore width; and said disk bore comprising a contoured shape having a contour depth, wherein said contoured shape is a smooth curve, wherein said smooth curve is a conic section, wherein said smooth curve is semi-circular, wherein said contoured shape comprises a blend radius.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

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be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Japan Patent No. 62251403.

Japan Patent discloses all the claimed subject matter except it does not disclose expressly a ratio of said contour depth divided by said bore width is between .04 and .12 and said ratio is greater than .05.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to make a disk bore with a ratio of contour depth divided by said bore width between .04 and .12 and said ratio is greater than .05 because Applicant has not disclosed that having a ratio of contour depth divided by said bore width between .04 and .12 and said ratio is greater than .05 provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with a ratio of contour depth divided by said bore width of the Japan Patent for the purpose of suppressing the concentration of stress in the tangential direction.

Therefore, it would have been an obvious matter of design choice to modify Japan Patent to obtain the invention as specified in claims 5 and 6.

Prior Art

Prior art made of record but not relied upon is considered pertinent to Applicant's disclosure and consist of five patents.

Eastcott et al. (3,698,750) is cited to show a disk, comprising: a disk bore disposed about a centerline, said disk bore having a bore width; and said disk bore comprising a contoured shape having a contour depth.

Jepsen (4,417,855) is cited to show a disk, comprising: a disk bore disposed about a centerline, said disk bore having a bore width; and said disk bore comprising a contoured shape having a contour depth.

Woodwell et al. (4,832,574) is cited to show a disk, comprising: a disk bore disposed about a centerline, said disk bore having a bore width; and said disk bore comprising a contoured shape having a contour depth.

Naudet (4,844,694) is cited to show a disk, comprising: a disk bore disposed about a centerline, said disk bore having a bore width; and said disk bore comprising a contoured shape having a contour depth.

Ng et al. (5,236,307) is cited to show a disk, comprising: a disk bore disposed about a centerline, said disk bore having a bore width; and said disk bore comprising a contoured shape having a contour depth.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kershteyn whose telephone

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number is **(571)272-4817**. The examiner can be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached on **(571)272-4820**. The fax number is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308 0861.

IK

December 7, 2004



Igor Kershteyn
Patent examiner.
Art Unit 3745



EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
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12/8/04